episodes involving inpatient care and complications could lower substantially the burden of diabetes.

PCV82

REAL WORLD EVIDENCE AND COSTS OF CHRONIC HEART FAILURE: FINDINGS FROM 41,413 PATIENTS OF THE ARNO DATABASE

Rossi E[1], Cinconze E[1], Nica M[2], Colombo D[2], Maggioni AP[3]

[1]*CINECA Interuniversity Consortium, Casalecchio di Reno, Italy,* [2]*Novartis Farma, Origgio, Italy,* [3]*ANMCO Research Center, Florence, Italy*

OBJECTIVES: Patients with chronic heart failure (HF) in controlled trials do not fully represent real population followed in clinical practice. We wanted to give real world picture of epidemiology and hospitalization caractheristics of patients with HF, by analyzing administrative database of nearly 2,500,000 subjects. Evaluation of healthcare related costs over 1 year follow-up was performed. **METHODS:** Data come from ARNO database that includes in-habitants of 7 Local Health Authorities of the Italian National Health Service (NHS). Patients were selected when admission for HF occurred over period of 5 years (January 1, 2008 to December 31 2012). To confirm diagnosis, all patients discharged alive should be prescribed typical treatment for HF. Clinical characteristics co-morbidities, treatment, need for re-hospitalization and mortality occurring in the 1st year following discharge were analyzed. Total costs for NHS were calculated as hospitalizations, treatments and out-of-hospital speciality visits or examinations. **RESULTS:** 54,059 patients (2.2%) were admitted for HF. The great majority was admitted in Internal Medicine/ Geriatric Departments (69.5%). Of 54,059 patients, 41,413 were discharged alive and prescribed HF treatments. Need for re-hospitalization occurred frequently: 56.6% of patients was admitted at least once in 1-year following discharge, cardiovascular admissions accounted for just 51% of the total hospitalizations. All-cause 1 year mortality was 18.9%. Patient with HF generate a cost per year to NHS 7,429€ (11,867€ if first admission included). Cost per year were as follows: new hospitalizations 76%, drug prescriptions 16%, visits/examinations 8%. **CONCLUSIONS:** Real world evidence in HF provides findings different from randomized clinical trials. Patients are older and more frequently females. Rate of use of treatments is not optimal. All-cause mortality remains high and re-hospitalizations are frequent. In nearly half cases, re-hospitalizations are due to non CV reasons, documenting relevant role of advanced age and co-morbidities. Costs for NHS are mainly driven by hospital costs.

PCV83

RESOURCE UTILIZATION AND TREATMENT COSTS OF STROKE IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION IN SPAIN

Lefevre C[1], Benhaddi H[2], Lacoin L[3], Diaz Cuervo H[4], Lee Y[5], Evans D[1], Budd D[1]

[1]*Bristol-Myers Squibb, Rueil-Malmaison, France,* [2]*Bristol-Myers Squibb, Braine-L'Alleud, Belgium,* [3]*Bristol-Myers Squibb, Uxbridge, UK,* [4]*Laser Outcomes, Oviedo, Spain,* [5]*Laser Outcomes, New York, NY, USA*

OBJECTIVES: Atrial Fibrillation (AF) is the most common arrhythmia in Europe. AF increases the risk of death and cost of care, and is the second leading risk factor for stroke. The study objective was to estimate healthcare resource utilization (HCRU) and treatment costs of non-valvular AF (NVAF) patients with and without stroke. **METHODS:** Retrospective cohort study of patients newly diagnosed with NVAF from January 2003 to December 2013. Patients were identified using medical diagnoses (ICD-9 codes) and treatment prescriptions (ATC codes) in the Badalona Serveis Assistencials database. HCRU included overall hospital admissions, outpatient consultations, home-based care, laboratory tests, and pharmacological treatments. Differences in annualized total cost rates (95% CIs) per patient were calculated in € (2014 tariffs) by estimating HCRU in propensity-score matched cohorts of NVAF patients with and without stroke. **RESULTS:** Overall, 3,052 patients with NVAF were identified in the study period, and 11.2% had at least one stroke event after NVAF diagnosis. Median follow-up time of patients with stroke was 519 days. In the first year after stroke, there was on average an incremental 0.9 hospital admissions per patient, 0.9 additional ER admissions, 2.9 additional hospital outpatient consultations, 5.7 additional consultations at other sites, 4.2 additional procedures/laboratory tests, and 265 additional DDDs of anticoagulant. The incremental total cost of stroke per patient was 12,085€ (12,069-12,101) in the first year, and 6,384€ (6,377-6,391) for the entire follow-up period. Total cost of stroke per patient was 4.4 times higher than non-stroke patients during the first year after stroke, and 2.9 times higher for the entire follow-up. **CONCLUSIONS:** In Spain, NVAF patients with stroke consumed additional HCRU and treatment costs compared to patients without stroke. The burden of stroke was particularly important in the first year after stroke, and hospitalizations were the main drivers of the increased HCRU and costs.

PCV84

ANALYSIS OF IN-HOSPITAL RESOURCE USE AFTER AN ISCHEMIC STROKE

Dewilde S[1], Annemans L[2], Thijs V[3]

[1]*SHE & UGent, Brussel, Belgium,* [2]*University of Ghent, Ghent, Belgium,* [3]*KULeuven, Leuven, Belgium*

OBJECTIVES: To investigate the resources used by ischemic stroke patients when hospitalized, and examine this relationship by stroke severity. Comparing a bottom-up costing approach with national top-down costs. **METHODS:** Data from five Belgian hospitals were requested for the years 2008 up to 2011 detailing the length-of-stay (LOS), drugs, medical imaging and clinical biology tests. Participating hospitals were distributed across the country and included regional as well as teaching hospitals. Severity of the stroke was defined as mild, moderate, major or severe according to the Severity-of-Illness (SOI) categorization within APR-DRG category 045, which is determined by the classification of primary and secondary diagnoses. Average bottom-up costs were compared to the national reimbursement received by hospitals. **RESULTS:** 2,496 hospital admissions were included in our analysis; all admissions contributed to the LOS calculations, 2,364 observations were available for medical imaging, 1,954 for drug treatments whereas data for clinical biology were very scarce. Patients were distributed across SOI categories as follows: 3.9% mild, 51.8% moderate, 26.4% major, 17.9% severe with LOS 5.61, 10.78, 19.43 and 34.60 days respectively. Costs for drugs ranged from €139.82 in SOI1, €150.26 in SOI2, €349.51 in SOI3 and €758.41 in SOI4. Data on clinical biology amounted to €17.13 per patient; on average 15 types of lab tests were used. Costs for imaging also varied by severity and were €876.58, €866.29, €930.07 and €1,247.45 for increasing levels of SOI. In total 39 different imaging tests were used covering among others functional measurements, radiology, Rx, CT and MRI. Total costs amounted to €3,653 , €5,583 , €9,489 , €16,660 respectively. Compared to the national average these costs are 5% lower, mainly due to underestimation of honoraria. **CONCLUSIONS:** In-hospital costs increase with stroke severity, with the most severe patients costing 4.5 times more than mild patients. Bottom-up costing approximated the top-down costs.

PCV85

AN EPIDEMIOLOGICAL EVALUATION OF THE INCIDENCE OF DEEP VENOUS THROMBOSIS AND PULMONARY EMBOLISM IN PATIENTS WITH HIP OR KNEE REPLACEMENT SURGERY AND OF ITS IMPACT ON THE AVERAGE LENGTH OF STAY AND HOSPITALIZATION COST

Chevalier P, Lamotte M

IMS Health, Vilvoorde, Belgium

OBJECTIVES: Various published sources report an incidence of symptomatic deep venous thrombosis (DVT) and pulmonary embolism (PE) in patients undergoing hip or knee replacement ranging between 0.3 and 2%. This study aimed at assessing the in-hospital incidence of DVT/PE after major orthopaedic surgery in Belgium and the impact of these complications on the length of stay and hospitalization costs using retrospective data. **METHODS:** The incidence of DVT/PE, the average hospitalization cost and the average length of stay (LOS) among patients hospitalized for hip or knee replacement surgery were estimated using the longitudinal IMS Hospital Disease Database (year 2013), including data (diagnoses, procedures, costs) on 24% of Belgian hospital beds. Stays were searched based on ICD-9-CM codes corresponding to hip replacement (81.51-81.52-81.53) and knee replacement (81.54-81.55). Occurrence of DVT/PE was identified with ICD-9 codes 451.1-451.2-453.4. The impact of a DVT/PE complication on LOS/ cost was assessed through Wilcoxon non-parametrical tests. **RESULTS:** 7,160 stays with hip replacement and 6,223 stays with knee replacement were retrieved in the database. The number of stays with a DVT/PE episode was respectively equal to 22 and 43 within the two subgroups, resulting in an incidence of 0.31% in patients with hip replacement and 0.69% in patients with knee replacement. LOS of patients with a DVT/PE episode was more than twice as high after both hip (35.8 vs. 13.59 days; $p<0.001$) and knee (31.2 vs. 9.9 days; $p<0.001$) replacement. Hospitalization costs were also more than doubled in case of DVT/PE complication (€25,557 vs. €12,721 in hip replacement; €24,953 vs. €11,298 in knee replacement; $p<0.001$ in both cases). **CONCLUSIONS:** The incidences of symptomatic DVT and PE reported in the literature could be confirmed based on this retrospective search. The occurrence of DVT/PE increases dramatically both LOS and hospitalization costs in patients undergoing hip or knee surgery.

PCV86

DIRECT TREATMENT COSTS OF STROKE IN TURKEY

Tatar M[1], Senturk A[2], Tuna E[2], Karabulut E[1], Caliskan Z[1], Arsava EM[1], Topcuoglu MA[1]

[1]*Hacettepe University, Ankara, Turkey,* [2]*Polar Health Economics and Policy Consultancy, Ankara, Turkey*

OBJECTIVES: Stroke is the second leading cause of death globally and the survivors are faced with long-term disability. Stroke survivors are also under the risk of recurrent strokes causing a potential burden on health care systems. Therefore, cost of stroke studies are of special importance to healthcare policy makers in order to predict and take precautions for stroke in their health care system. The aim of this study was to determine the direct economic cost of stroke from the payer perspective in Turkey. **METHODS:** A multi-dimensional approach was used to estimate the direct costs of stroke in Turkey. First a large dataset covering 5 years data for 2000 emergency department stroke admissions from a university hospital was analyzed. The data set covered information on the severity of the disease, socioeconomic status of the patients and also the medical procedures applied during the hospital stay. Second, the actual invoices of the same patients hospitalized in 2014 were analyzed. Third, a form was designed to explore the treatment strategies, medical procedures and resource requirements of stroke outpatients and inpatients. The form was applied to an expert panel and the resources determined by the panel were priced by the Social Security Institution's official price list. **RESULTS:** According to the expert panel part of the study, annual outpatient and monitoring costs were 1.807,58 TL and intensive care and inpatient costs were 5.636,52 TL. The total annual cost of stroke per patient was calculated as 7.444,11 TL in Turkey. **CONCLUSIONS:** The study showed that stroke treatment had a significant economic burden on the healthcare budget. Outpatient and monitoring costs constituted %24 of total costs whereas inpatient costs constituted %76 of total costs.

PCV87

LOCAL COST STUDY OF TREATMENT OF VENOUS THROMBOEMBOLISM IN TURKEY

Tatar M[1], Senturk A[2], Tuna E[2], Bilginer B[1], Ulus AT[1], Buyuktuna N[3], Hacibedel B[4], Saribas G[4]

[1]*Hacettepe University, Ankara, Turkey,* [2]*Polar Health Economics and Policy Consultancy, Ankara, Turkey,* [3]*Bristol Myers Squibb, Istanbul, Turkey,* [4]*Pfizer Pharmaceuticals, Department of Health Economics and Outcomes Research, Istanbul, Turkey*

OBJECTIVES: Venous thromboembolism (VTE) is a common disorder, with about 1 per 1,000 people per year in the general population.Approximately two-thirds of cases of VTE present as deep vein thrombosis (DVT), the formation of a thrombus in a deep vein, usually of the lower limbs. Around one third of VTE cases present as pulmonary embolism (PE), occurring when dislodged thrombi (from a DVT) travel to the lungs. PE can cause sudden death and those who survive an episode occasionally require intensive care, with recovery taking several weeks or months. The